

IN THE CLAIMS:

Please cancel claims 1 - 12 in their entirety and without prejudice and substitute the following new claims:

1 --13. A method for scalable monitoring of a computer system comprising a
2 plurality of computer units constituting hardware resources to be monitored forming a
3 monitored domain, and a manager comprising a central computer system connected to
4 a communication network that allows transfer of information between at least one of
5 the resources and the manager, said resources including memories and having
6 installed therein indicator agents, the method being characterized in that it comprises:

7 - a step for organizing the monitored domain into a plurality of monitored
8 subdomains (d1, d2) comprising a predetermined maximum number of resources (A1,
9 A2, B1, B2),

10 - a step for automatically creating and configuring, for each subdomain, an
11 information synthesis node comprising at least one synthesis agent stored in a
12 memory of a resource, calculating and storing indicator values in the memory of at
13 least one resource, synthesizing by each synthesizing agent said stored indicator
14 values to define corresponding indicators, said indicators representing an operational
15 status of the resources of a subdomain, evaluating said indicators by indicator agents
16 of said resources, each indicator agent being uniquely identified by the name of the
17 indicator the indicator agent calculates and by the subdomain in which said indicator
18 agent is installed and being associated with each synthesis agent using the
19 corresponding indicator value, and

20 - a step for modifying the associations between the synthesis agents and the
21 indicator agents when a predetermined maximum number of resources in a subdomain
22 is reached, in order to accommodate the addition or deletion of indicators so that the

monitored domain comprises a new architecture having, in each subdomain, a number of resources lower than the predetermined maximum number of resources.

14. A method for scalable monitoring of a computer system according to claim 13, characterized in that the step for configuring an information synthesis node comprises, for each synthesis agent:

- a step for searching, in a table stored in the memory of a resource, for the name of the indicator agent or agents required to calculate the indicator of the synthesis agent, and

- a step for subscribing the synthesis agent to the indicator agents identified during the search step, said subscription step allowing each synthesis agent to automatically receive, in a corresponding subscription table stored in the storage means of a resource, the new values of the indicators found.

15. A method for scalable monitoring of a computer system according to claim 14, characterized in that the step for searching comprises:

- a step for the sending notification by the synthesis agent to a naming service dedicated to storing the associations between a subdomain name, an indicator agent and an indicator, said notification comprising the name of a given subdomain and a given indicator.

16. A method for scalable monitoring of a computer system according to claim 13, characterized in that the step for modification of associations comprises:

- a step for installing at least one indicator agent in each new resource added to a subdomain,

5 - a step for sending, to the synthesis agents requiring the value of the indicator
6 of the new indicator agent or agents, a notification comprising the identification of the
7 new indicator agent or agents, and

8 - a step for subscribing each synthesis agent to the new indicator agents
9 required to calculate the indicator of the synthesis agent.

1 17. A method for scalable monitoring of a computer system according to
2 claim 14, characterized in that the step for modification of associations comprises:

3 - a step for installing at least one indicator agent in each new resource added to
4 a subdomain,

5 - a step for sending, to the synthesis agents requiring the value of the indicator
6 of the new indicator agent or agents, a notification comprising the identification of the
7 new indicator agent or agents, and

8 - a step for subscribing each synthesis agent to the new indicator agents
9 required to calculate the indicator of the synthesis agent.

1 18. A method for scalable monitoring of a computer system according to
2 claim 15, characterized in that the step for modification of associations comprises:

3 - a step for installing at least one indicator agent in each new resource added to
4 a subdomain,

5 - a step for sending, to the synthesis agents requiring the value of the indicator
6 of the new indicator agent or agents, a notification comprising the identification of the
7 new indicator agent or agents, and

8 - a step for subscribing each synthesis agent to the new indicator agents
9 required to calculate the indicator of the synthesis agent.

1 19. A method for scalable monitoring of a computer system according to
2 claim 13, characterized in that the step for modification of association comprises:

3 - a step for selecting, for each subdomain, the resources to be deleted,
4
5 - a step for sending, to the synthesis agents using the value of the indicator of
6 the indicator agent or agents installed in the selected resource or resources, a
7 notification comprising the identification of the deleted indicator agent or agents, and
8
9 - a step for unsubscribing the synthesis agents from the indicator agents whose
10 indications are contained in the notification.

1 20. A method for scalable monitoring of a computer system according to
2 claim 14, characterized in that the step for modification of association comprises:

3 - a step for selecting, for each subdomain, the resources to be deleted,
4
5 - a step for sending, to the synthesis agents using the value of the indicator of
6 the indicator agent or agents installed in the selected resource or resources, a
7 notification comprising the identification of the deleted indicator agent or agents, and
8
9 - a step for unsubscribing the synthesis agents from the indicator agents whose
10 indications are contained in the notification.

1 21. A method for scalable monitoring of a computer system according to
2 claim 15, characterized in that the step for modification of association comprises:

3 - a step for selecting, for each subdomain, the resources to be deleted,

4 - a step for sending, to the synthesis agents using the value of the indicator of
5 the indicator agent or agents installed in the selected resource or resources, a
6 notification comprising the identification of the deleted indicator agent or agents, and

7 - a step for unsubscribing the synthesis agents from the indicator agents whose
8 indications are contained in the notification.

1 22. A method for scalable monitoring of a computer system according to
2 claim 16, characterized in that the step for modification of association comprises:

3 - a step for selecting, for each subdomain, the resources to be deleted,

4 - a step for sending, to the synthesis agents using the value of the indicator of
5 the indicator agent or agents installed in the selected resource or resources, a
6 notification comprising the identification of the deleted indicator agent or agents, and

7 - a step for unsubscribing the synthesis agents from the indicator agents whose
8 indications are contained in the notification.

1 23. A method for scalable monitoring of a computer system according to
2 claim 17, characterized in that the step for modification of association comprises:

3 - a step for selecting, for each subdomain, the resources to be deleted,

4 - a step for sending, to the synthesis agents using the value of the indicator of
5 the indicator agent or agents installed in the selected resource or resources, a
6 notification comprising the identification of the deleted indicator agent or agents, and

7 - a step for unsubscribing the synthesis agents from the indicator agents whose
8 indications are contained in the notification.

1 24. A method for scalable monitoring of a computer system according to
2 claim 18, characterized in that the step for modification of association comprises:

3 - a step for selecting, for each subdomain, the resources to be deleted,

4 - a step for sending, to the synthesis agents using the value of the indicator of
5 the indicator agent or agents installed in the selected resource or resources, a
6 notification comprising the identification of the deleted indicator agent or agents, and

A12 7 - a step for unsubscribing the synthesis agents from the indicator agents whose
8 indications are contained in the notification.

1 25. A method for scalable monitoring of a computer system according to
2 claim 13, further comprising determining the maximum number of resources per
3 subdomain to minimize the cost of calculating the indicators, or the number of
4 synthesis nodes.

1 26. A method for scalable monitoring of a computer system according to
2 claim 14, further comprising determining the maximum number of resources per
3 subdomain to minimize the cost of calculating the indicators, or the number of
4 synthesis nodes is as low as possible.

1 27. A method for scalable monitoring of a computer system according to
2 claim 15, further comprising determining the maximum number of resources per
3 subdomain to minimize the cost of calculating the indicators, or the number of
4 synthesis nodes is as low as possible.

1 28. A method for scalable monitoring of a computer system according to
2 claim 16, further comprising determining the maximum number of resources per

subdomain to minimize the cost of calculating the indicators, or the number of synthesis nodes is as low as possible.

29. A method for scalable monitoring of a computer system according to claim 19, further comprising determining the maximum number of resources per subdomain to minimize the cost of calculating the indicators, or the number of synthesis nodes is as low as possible.

30. A method for scalable monitoring of a computer system according to claim 20, further comprising determining the maximum number of resources per subdomain to minimize the cost of calculating the indicators, or the number of synthesis nodes is as low as possible.

31. A method for scalable monitoring of a computer system according to claim 21, further comprising determining the maximum number of resources per subdomain to minimize the cost of calculating the indicators, or the number of synthesis nodes is as low as possible.

32. A method for scalable monitoring of a computer system according to claim 22, further comprising determining the maximum number of resources per subdomain to minimize the cost of calculating the indicators, or the number of synthesis nodes is as low as possible.

33. A device for the scalable monitoring of a computer system comprising a plurality of computer units constituting hardware resources to be monitored and forming a monitored domain, said resources including memories having stored therein indicator agents, means for organizing the monitored domain into monitored subdomains comprising a predetermined maximum number of resources, means for

6 creating and configuring, in a memory of at least one resource, information synthesis
7 nodes comprising at least one synthesis agent stored in said memory of at least one
8 resource for synthesizing indicator values calculated and stored in the memory of at
9 least one resource to define corresponding indicators, said indicators representing an
10 operational status of the resources of a subdomain and being evaluated by the
11 indicator agents installed in said resources, each indicator agent being uniquely
12 identified by the name of the indicator said indicator agent calculates and by the
13 subdomain in which the indicator agent is installed, the configuration of a synthesis
14 agent comprising the storage, in the memory of a resource, of the associations
15 between the synthesis agent and indicator agents, and means for modifying the
16 associations between the synthesis agents and the indicator agents when the
17 predetermined maximum number of resources in a subdomain is reached, so that the
18 new architecture of the monitored domain comprises, in each subdomain, a number of
19 resources lower than the predetermined maximum number of resources.

1 34. A scalable monitoring device for scalable monitoring of a computer
2 system according to claim 33, characterized in that the means for configuring a
3 synthesis node comprise means for searching, in a table stored in the storage means of
4 a resource, for the name of the indicator agent or agents required to calculate the
5 indicator of the synthesis agent, and means for subscribing the synthesis agent to the
6 indicator agents identified by the means for searching; said means for subscribing
7 allowing each synthesis agent to automatically receive, in a synthesis agent
8 subscription table stored in the storage means, new values of the indicators found.

1 35. A scalable monitoring device for scalable monitoring of a computer
2 system according to claim 34, characterized in that the search means comprise means

3 for sending a notification by the synthesis agent to a naming service dedicated to
4 storing, in a table stored in the memory of a resource, the associations between a
5 subdomain name, an indicator agent and an indicator, said notification comprising the
6 name of a given subdomain and a given indicator, and means for the sending a
7 notification by the naming service to the requesting synthesis agent, of the name of
8 the indicator agent or agents corresponding to the association of the given subdomain
9 and the given indicator.

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1 36. A scalable monitoring device for scalable monitoring of a computer
2 system according to claim 33, characterized in that the modification means comprise
3 means for creating and storing at least one indicator agent in each new resource added
4 to a subdomain, means for sending, to the synthesis agents requiring the value of the
5 indicator of the new indicator agent or agents, a notification comprising the
6 identification of the new indicator agents or agents, and means for subscribing each
7 synthesis agent to the new indicator agents required to calculate the indicator of the
8 synthesis agent.

1 37. A scalable monitoring device for scalable monitoring of a computer
2 system according to claim 34, characterized in that the modification means comprise
3 means for creating and storing at least one indicator agent in each new resource added
4 to a subdomain, means for sending, to the synthesis agents requiring the value of the
5 indicator of the new indicator agent or agents, a notification comprising the
6 identification of the new indicator agents or agents, and means for subscribing each
7 synthesis agent to the new indicator agents required to calculate the indicator of the
8 synthesis agent.

1 38. A scalable monitoring device for scalable monitoring of a computer
2 system according to claim 25, characterized in that the modification means comprise
3 means for creating and storing at least one indicator agent in each new resource added
4 to a subdomain, means for sending, to the synthesis agents requiring the value of the
5 indicator of the new indicator agent or agents, a notification comprising the
6 identification of the new indicator agents or agents, and means for subscribing each
7 synthesis agent to the new indicator agents required to calculate the indicator of the
8 synthesis agent.

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1 39. A scalable monitoring device for scalable monitoring of a computer
2 system according to claim 33, characterized in that the modification means comprise
3 means for selecting, for each subdomain of the resources to be deleted, means for
4 sending, to the synthesis agents using the value of the indicator of the indicator agent
5 or agents installed in the selected resource or resources, a notification comprising the
6 identification of the deleted indicator agent or agents, and means for unsubscribing
7 the synthesis agents from the indicator agents whose identifications are contained in
8 the notification.

1 40. A scalable monitoring device for scalable monitoring of a computer
2 system according to claim 34, characterized in that the modification means comprise
3 means for selecting, for each subdomain of the resources to be deleted, means for
4 sending, to the synthesis agents using the value of the indicator of the indicator agent
5 or agents installed in the selected resource or resources, a notification comprising the
6 identification of the deleted indicator agent or agents, and means for unsubscribing
7 the synthesis agents from the indicator agents whose identifications are contained in
8 the notification.

1 41. A scalable monitoring device for scalable monitoring of a computer
2 system according to claim 35, characterized in that the modification means comprise
3 means for selecting, for each subdomain of the resources to be deleted, means for
4 sending, to the synthesis agents using the value of the indicator of the indicator agent
5 or agents installed in the selected resource or resources, a notification comprising the
6 identification of the deleted indicator agent or agents, and means for unsubscribing
7 the synthesis agents from the indicator agents whose identifications are contained in
8 the notification.

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1 42. A scalable monitoring device for scalable monitoring of a computer
2 system according to claim 36, characterized in that the modification means comprise
3 means for selecting, for each subdomain of the resources to be deleted, means for
4 sending, to the synthesis agents using the value of the indicator of the indicator agent
5 or agents installed in the selected resource or resources, a notification comprising the
6 identification of the deleted indicator agent or agents, and means for unsubscribing
7 the synthesis agents from the indicator agents whose identifications are contained in
8 the notification.

1 43. A scalable monitoring device for scalable monitoring of a computer
2 system according to claim 33, comprising means for determining the maximum
3 number of resources per subdomain for minimizing the cost of calculating the
4 indicators, or the number of synthesis nodes.

1 44. A scalable monitoring device for scalable monitoring of a computer
2 system according to claim 36, comprising means for determining the maximum
3 number of resources per subdomain for minimizing the cost of calculating the
4 indicators, or the number of synthesis nodes.

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